TABLE

OF

TRIGONOMETRICAL SOLUTIONS

OF

RIGHT ANGLE PLANE TRIANGLES,

COMPUTED

ON THE

LOGARITHMIC NUMBER 2,000000.

By JOSEPH BOUCHETTE, Junior,

LAND SURVEYOR.

MONTREAL.

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JOSEP

LANE, PRINTER, MONTREAL.

TO

JOSEPH BOUCHETTE, ESQUIRE,

SURVEYOR-GENERAL

OF THE

PROVINCE OF LOWER-CANADA,

&c. &c. &c.

THIS TABLE

IS MOST RESPECTFULLY INSCRIBED

BY

THE AUTHOR.

EXPLANATION.

THE necessity of a Table that would remove, or substitute, the calculation by Logarithms, to find inaccessable distances, which so very frequently occur in the practice of Land Surveying in this country, and be moreover less liable to error, suggested to me the following computation of a Trigonometrical Table, to embrace those objects.

By admeasuring a base of a right angle triangle of 100 links or feet, and referring the angle which it measures with the hypothenuse, to the corresponding angle in the column of degrees and minutes; the number of chains, links or feet and fractional parts, in the next column, will be the extent or perpendicular required.

Should the base admeasure 200, 300, &c., links or feet, multiply the chains, links or feet, thus obtained, by 2, 3, &c., and the product will be the perpendicular required.

To find the Hypothenuse.

The square root of the sum of the squares of the base, and the perpendicular as given by the Table, will be the extent or hypothenuse required.

Degrees.	Minutes.	Chains and Links.	Part of Link.	Degrees.	Minutes.	Chains and Links.	Part of Link.	Degrees.	Minutes.	Chains and Links.	Part of Link.
45°.	00′	1,00	0	48°.	00′	1,11	0	51°.	00′	1,23	4
	5		2		5		3		5		8
	10		4		10		6		10	1,24	2
	15		6		15	1,12	0		15		6
	20		8		20		3		20	1,25	0
	25	1,01	0		25		6		25		4
	30		3		30	1,13	0		30		8
	35		5		35		3		35	1,26	2
	40		8		40		6		40		6
	45	1,02	0		45	1,14	0		45	1,27	0
	50		3		50		3		50		4
	55		6		55		6		55		7
46	00	1,03	0	49	00	1,15	0	52	00	1,28	1
	5		3		5		3		5		4
	10		6		10		6		10		8
	15	1,04	0		15	1,16	0		15	1,29	2
	20		3		20		3		20		6
	25		6		25		6		25	1,30	0
	30	1,05	0		30	1,17	0		30		4
	35		3		35		3		35		8
	40		6		40		7		40	1,31	2
	45	1,06	0		45	1,18	1		45		6
	50		3		50		3		50	1,32	0
	55		6		55		7		55		4
47	00	1,07	0	50	00	1,19	1	53	00		8
	5		3		5		4		5	1,33	2
	10		6		10		7		10		6
	15	1,08	0		15	1,20	1		15	1,34	0
	20		3		20		4		20		4
	25		6		25		8		25		8
	30	1,09	0		30	1,21	2		30	1,35	0
	35		3		35		6		35		2
	40		6		40	1,22	0		40		6
	45	1,10	0		45		4		45	1,36	0
	50		3		50		7		50		4
	55		6		55	1,23	0		55		8

Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.
54°.	00′	1,37	2	57°.	00′	1,54	0	60°.	00′	1,73	3
	5		6		5		5		5		9
	10	1,38	0		10	1,55	0		10	1,74	5
	15		5		15		5		15	1,75	0
	20	1,39	0		20	1,56	0		20		6
	25		5		25		5		25	1,76	2
	30	1,40	0		30	1,57	0		30		8
	35		5		35		5		35	1,77	4
	40	1,41	0		40	1,58	0		40	1,78	0
	45		5		45		5		45		5
	50	1,42	0		50	1,59	0		50	1,79	2
	55		4		55		5		55		8
55	00		8	58	00	1,60	0	61	00	1,80	4
	5	1,43	2		5		5		5	1,81	0
	10		6		10	1,61	0		10		6
	15	1,44	1		15		5		15	1,82	2
	20		6		20	1,62	0		20		8
	25	1,45	1		25		6		25	1,83	4
	30		6		30	1,63	1		30	1,84	0
	35	1,46	0		35		6		35		6
	40		4		40	1,64	1		40	1,85	2
	45		8		45		7		45		9
	50	1,47	2		50	1,65	3		50	1,86	6
	55		6		55	1,66	0		55	1,87	3
56	00	1,48	2	59	00		5	62	00	1,88	0
	5		7		5	1,67	0		5		7
	10	1,49	2		10		6		10	1,89	4
	15		7		15	1,68	2		15	1,90	1
	20	1,50	2		20		8		20		8
	25		7		25	1,69	4		25	1,91	5
	30	1,51	2		30		9		30	1,92	2
	35		6		35	1,70	5		35		9
	40	1,52	0		40	1,71	0		40	1,93	6
	45		5		45		5		45	1,94	2
	50	1,53	0		50	1,72	1		50		9
	55		5		55		7		55	1,95	6

Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.
63°.	00′	1,96	3	66°.	00′	2,25	4	69°.	00′	2,60	5
	5	1,97	0		5	2,26	3		5	2,61	6
	10		7		10	2,27	2		10	2,62	7
	15	1,98	4		15	2,28	1		15	2,63	8
	20	1,99	1		20	2,29	0		20	2,64	9
	25		8		25		9		25	2,66	0
	30	2,00	5		30	2,30	8		30	2,67	2
	35	2,01	2		35	2,31	7		35	2,68	4
	40		9		40	2,32	6		40	2,69	6
	45	2,02	6		45	2,33	5		45	2,70	8
	50	2,03	3		50	2,34	4		50	2,72	0
	55	2,04	0		55	2,35	3		55	2,73	2
64	00		8	67	00	2,36	2	70	00	2,74	5
	5	2,05	5		5	2,37	1		5	2,75	8
	10	2,06	2		10	2,38	0		10	2,77	0
	15	2,07	0		15		9		15	2,78	3
	20		8		20	2,39	8		20	2,79	6
	25	2,08	6		25	2,40	7		25	2,80	9
	30	2,09	4		30	2,41	6		30	2,82	2
	35	2,10	2		35	2,42	5		35	2,83	5
	40	2,11	0		40	2,43	5		45	2,84	8
	45		9		45	2,44	5		40	2,86	1
	50	2,12	8		50	2,45	5		50	2,87	4
	55	2,13	7		55	2,46	5		55	2,88	8
65	00	2,14	6	68	00	2,47	5	71	00	2,90	2
	5	2,15	5		5	2,48	5		5	2,91	6
	10	2,16	4		10	2,49	6		10	2,93	0
	15	2,17	3		15	2,50	7		15	2,94	4
	20	2,18	2		20	2,51	8		20	2,95	8
	25	2,19	1		25	2,53	0		25	2,97	2
	30	2,20	0		30	2,54	1		30	2,98	6
	35		9		35	2,55	1		35	3,00	1
	40	2,21	8		40	2,56	2		40	3,01	6
	45	2,22	7		45	2,57	2		45	3,03	1
	50	2,23	6		50	2,58	3		50	3,04	6
	55	2,24	5		55	2,59	4		55	3,06	1

Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.
72°.	00′	3,07	6	75°.	00′	3,73	0	76°.	48′	4,26	1
	5	3,09	3		3	3,74	3		51	4,27	8
	10	3,10	8		6	3,75	6		54	4,29	5
	15	3,12	3		9	3,77	0		57	4,31	3
	20	3,13	8		12	3,78	4	77	00	4,33	2
	25	3,15	4		15	3,79	8		3	4,35	0
	30	3,17	0		18	3,81	2		6	4,36	8
	35	3,18	6		21	3,82	6		9	4,38	6
	40	3,20	2		24	3,84	0		12	4,40	4
	45	3,21	8		27	3,85	4		15	4,42	2
	50	3,23	4		30	3,86	8		18	4,44	0
	55	3,25	0		33	3,88	2		21	4,43	8
73	00	3,26	7		36	3,89	6		24	4,47	6
	5	3,28	4		39	3,91	0		27	4,49	4
	10	3,30	1		42	3,92	4		30	4,51	2
	15	3,31	8		45	3,93	8		33	4,53	0
	20	3,33	6		48	3,95	2		36	4,54	8
	25	3,35	4		51	3,96	6		39	4,56	6
	30	3,37	2		54	3,98	0		42	4,58	4
	35	3,39	6		57	3,99	5		45	4,60	2
	40	3,40	9	76	00	4,01	0		48	4,62	0
	45	3,42	8		3	4,02	5		51	4,63	9
	50	3,44	7		6	4,04	0		54	4,65	8
	55	3,46	6		9	4,05	5		57	4,67	7
74	00	3,48	5		12	4,07	0	78	00	4,69	6
	5	3,50	4		15	4,08	5		3	4,71	5
	10	3,52	3		18	4,10	0		6	4,73	5
	15	3,54	2		21	4,11	5		9	4,75	5
	20	3,56	2		24	4,13	0		12	4,77	5
	25	3,58	2		27	4,14	6		15	4,79	6
	30	3,60	2		30	4,16	2		18	4,81	7
	35	3,62	3		33	4,17	8		21	4,83	8
	40	3,64	4		36	4,19	4		24	4,86	0
	45	3,66	5		39	4,21	0		27	4,88	3
	50	3,68	6		42	4,22	7		30	4,90	6
	55	3,70	8		45	4,24	4		33	4,93	2

Degrees.	Minutes.	Chains and Links.	Part of Links.
78°.	36′	4,95	3
	39	4,97	5
	42	5,00	0
	45	5,02	4
	48	5,04	8
	51	5,07	2
	54	5,09	6
	57	5,12	0
9	00	5,14	4
	3	5,16	8
	6	5,19	2
	9	5,21	6
	12	5,24	0
	15	5,26	5
	18	5,29	0
	21	5,31	5
	24	5,34	0
	27	5,36	5
	30	5,39	2
	33	5,41	8
	36	5,44	5
	39	5,47	2
	42	5,49	9
	45	5,52	6
	48	5,55	4
	51	5,58	2
	54	5,61	1
	57	5,64	0
80	00	5,67	0
	3	5,70	0
	6	5,73	0
	9	5,76	0
	12	5,79	0
	15	5,82	0
	18	5,85	0
	21	5,88	0

Degrees.	Minutes.	Chains and Links.	Part of Links.
80°.	24′	5,91	1
	27	5,94	2
	30	5,97	3
	33	6,00	4
	36	6,03	6
	39	6,06	8
	42	6,10	1
	45	6,13	4
	48	6,16	8
	51	6,20	2
	54	6,23	6
	57	6,27	0
81	00	6,30	5
	3	6,34	1
	6	6,37	8
	9	6,41	6
	12	6,45	4
	15	6,49	2
	18	6,53	1
	21	6,56	5
	24	6,60	0
	27	6,65	0
	30	6,69	0
	33	6,73	0
	36	6,77	0
	39	6,81	1
	42	6,85	2
	45	6,89	3
	48	6,93	5
	51	6,98	0
	54	7,02	5
	57	7,07	0
82	00	7,11	5
	2	7,14	5
	4	7,17	5
	6	7,20	0

Degrees.	Minutes.	Chains and Links.	Part of Links.
82°.	8′	7,24	0
	10	7,27	0
	12	7,30	0
	14	7,33	0
	16	7,36	5
	18	7,40	0
	20	7,43	5
	22	7,46	0
	24	7,49	5
	26	7,53	0
	28	7,56	0
	30	7,59	5
	32	7,63	0
	34	7,66	5
	36	7,70	0
	38	7,73	5
	40	7,77	0
	42	7,80	5
	44	7,84	0
	46	7,87	5
	48	7,91	0
	50	7,94	5
	52	7,98	0
	54	8,02	0
	56	8,06	0
	58	8,10	0
83	00	8,14	0
	2	8,18	0
	4	8,22	0
	6	8,26	0
	8	8,30	0
	10	8,34	0
	12	8,38	0
	14	8,42	5
	16	8,47	0
	18	8,51	5

Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.
83°.	20′	8,56	0	84°.	32′	10,45	0	85°.	22′	12,34	5
	22	8,60	5		34	10,51	5		23	12,39	0
	24	8,65	0		36	10,58	0		24	12,43	5
	26	8,69	5		38	10,64	5		25	12,48	0
	28	8,74	0		40	10,71	0		26	12,52	5
	30	8,78	5		42	10,78	0		27	12,57	0
	32	8,83	0		44	10,85	0		28	12,61	5
	34	8,87	5		46	10,93	0		29	12,66	0
	36	8,92	0		48	10,99	0		30	12,70	5
	38	8,96	5		50	11,06	0		31	12,75	0
	40	9,01	0		52	11,13	0		32	12,80	0
	42	9,06	0		54	11,20	5		33	12,85	0
	44	9,11	0		56	11,28	0		34	12,90	0
	46	9,16	0		58	11,35	5		35	12,95	0
	48	9,21	0	85	00	11,43	0		36	13,00	0
	50	9,26	0		1	11,47	0		37	13,05	0
	52	9,31	0		2	11,51	0		38	13,10	0
	54	9,36	0		3	11,55	0		39	13,15	0
	56	9,41	0		4	11,59	0		40	13,20	0
	58	9,46	0		5	11,62	0		41	13,25	0
84	00	9,51	0		6	11,66	0		42	13,30	0
	2	9,56	5		7	11,70	0		43	13,35	0
	4	9,62	0		8	11,74	0		44	13,40	0
	6	9,67	5		9	11,78	5		45	13,45	5
	8	9,73	0		10	11,83	0		46	13,51	0
	10	9,78	5		11	11,87	0		47	13,56	5
	12	9,84	0		12	11,91	0		48	13,62	0
	14	9,90	0		13	11,95	0		49	13,67	5
	16	9,96	0		14	11,99	0		50	13,73	0
	18	10,02	0		15	12,03	0		51	13,78	5
	20	10,08	0		16	12,07	5		52	13,84	0
	22	10,14	0		17	12,12	0		53	13,89	5
	24	10,20	0		18	12,16	5		54	13,95	0
	26	10,26	0		19	12,21	0		55	14,00	5
	28	10,32	0		20	12,25	5		56	14,06	0
	30	10,38	5		21	12,30	0		57	14,12	0

Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Part of Links.
85°.	58′	14,18	0	86°.	34′	16,67	0	87°.	10′	20,20	0
	59	14,24	0		35	16,75	0		11	20,32	5
86	00	14,30	0		36	16,83	0		12	20,45	0
	1	14,36	0		37	16,91	5		13	20,57	5
	2	14,42	0		38	17,00	0		14	20,70	0
	3	14,48	0		39	17,08	5		15	20,82	5
	4	14,54	0		40	17,17	0		16	20,95	0
	5	14,60	5		41	17,25	5		17	21,08	0
	6	14,67	0		42	17,34	0		18	21,21	0
	7	14,73	5		43	17,43	0		19	21,34	0
	8	14,80	0		44	17,52	0		20	21,47	0
	9	14,86	5		45	17,61	0		21	21,60	5
	10	14,93	0		46	17,70	0		22	21,74	0
	11	14,99	5		47	17,79	0		23	21,88	0
	12	15,06	0		48	17,88	5		24	22,02	0
	13	15,12	5		49	17,98	0		25	22,16	0
	14	15,19	0		50	18,08	5		26	22,30	0
	15	15,25	5		51	18,17	0		27	22,45	0
	16	15,32	0		52	18,27	0		28	22,60	0
	17	15,39	0		53	18,37	0		29	22,75	0
	18	15,46	0		54	18,47	0		30	22,90	0
	19	15,53	0		55	18,57	0		31	23,05	5
	20	15,60	0		56	18,67	0		32	23,21	0
	21	15,67	5		57	18,77	0		33	23,37	0
	22	15,75	0		58	18,87	0		34	23,53	0
	23	15,82	5		59	18,97	5		35	23,69	0
	24	15,90	0	87	00	19,08	0		36	23,85	5
	25	15,97	5		1	19,18	5		37	24,02	0
	26	16,05	0		2	19,29	0		38	24,19	0
	27	16,12	5		3	19,40	0		39	24,36	5
	28	16,20	0		4	19,51	0		40	24,54	0
	29	16,27	5		5	19,62	0		41	24,72	0
	30	16,35	0		6	19,73	0		42	24,90	0
	31	16,43	0		7	19,84	0		43	25,08	0
	32	16,51	0		8	19,96	0		44	25,26	0
	33	16,59	0		9	20,08	0		45	25,44	5

Degrees.	Minutes.	Chains and Links.	Part of Links.	Degrees.	Minutes.	Chains and Links.	Degrees.	Minutes.	Chains and Links.	Degrees.	Minutes.	Chains.
87°.	46′	25,63	0	88°.	20′	34,37	88°.	54′	52,08	89°.	28′	107
	47	25,82	5		21	34,72		55	52,90		29	111
	48	26,03	0		22	35,07		56	53,70		30	115
	49	26,23	0		23	25,43		57	54,60		31	119
	50	26,43	0		24	35,80		58	55,50		32	123
	51	26,63	0		25	36,18		59	56,40		33	127
	52	26,84	0		26	36,56	89	00	57,30		34	132
	53	27,05	0		27	36,95		1	58,25		35	137
	54	27,27	0		28	37,35		2	59,30		36	143
	55	27,49	0		29	37,77		3	60,35		37	149
	56	27,71	0		30	38,19		4	61,40		38	156
	57	27,93	0		31	38,61		5	62,50		39	164
	58	28,16	5		32	39,05		6	63,60		40	172
	59	28,40	0		33	39,50		7	64,80		41	181
88	00	28,64	0		34	40,00		8	66,00		42	190
	1	28,87	0		35	40,50		9	67,30		43	202
	2	29,12	0		36	41,00		10	68,60		44	215
	3	29,37	0		37	41,50		11	70,00		45	229
	4	29,62	0		38	42,00		12	71,50		46	246
	5	29,88	0		39	42,50		13	73,10		47	265
	6	30,15	0		40	43,00		14	74,70		48	287
	7	30,41	0		41	43,50		15	76,40		49	312
	8	30,68	0		42	44,00		16	78,20		50	344
	9	30,96	0		43	44,64		17	80,00		51	382
	10	31,24	0		44	45,22		18	81,80		52	430
	11	31,53	0		45	45,83		19	83,90		53	491
	12	31,82	0		46	46,45		20	86,00		54	573
	13	32,12	0		47	47,08		21	88,30		55	688
	14	32,42	0		48	47,74		22	90,60		56	860
	15	32,73	0		49	48,41		23	93,00		57	1114
	16	33,05	0		50	49,11		24	95,50		58	1170
	17	33,37	0		51	49,70		25	98,20		59	1344
	18	33,69	0		52	50,50		26	100,50			
	19	34,03	0		53	51,30		27	103,50			

Degrees.	*Minutes.*	*Chains.*
39°	28′	107
	29	111
	30	115
	31	119
	32	123
	33	127
	34	132
	35	137
	36	143
	37	149
	38	156
	39	164
	40	172
	41	181
	42	190
	43	202
	44	215
	45	229
	46	246
	47	265
	48	287
	49	312
	50	344
	51	382
	52	430
	53	491
	54	573
	55	688
	56	860
	57	1114
	58	1170
	59	1344